

H-A

Notice of Allowability

Application No.

10/627,406

Examiner

Tu-Tu Ho

Applicant(s)

DEHON ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed 03/07/2005.
2. ☒ The allowed claim(s) is/are 1-42, 44 and 46-51.
3. ☒ The drawings filed on 24 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 03/07/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


David Helms
 Supervisory Patent Examiner
 Technology Center 2800

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 03/07/2005 has been entered.

Allowable Subject Matter

2. Claims 1-17, 19-20, 18, 26-40, 21-25, 48-51, 41-42, 44, and 46-47 (to be renumbered 1-49) are allowable over the prior art of record.

The allowable subject matter for claims 18, 36, and 48-51, stated in the Office Action mailed 06/22/2004, and is recited here in its entirety:

“The cited art, whether taken singularly or in combination, especially when all limitations are considered within the claimed specific combination, fails to teach or render obvious a nanoscale device comprising cross-point nanoscale wires and addressing lines, having all exclusive limitations as recited in claims 1/18 (claims 1 and 18), 21/23, 21/24, 21/25, and 21/36, characterized in that the addressing lines are also nanoscale wires or that microscale ohmic contacts, each of which is connected to a different subset of the nanoscale wires for selecting a

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specific subset of the nanoscale wires, are staggered or designed to leave not more than a sub-lithographic sized gap of unaddressed nanoscale wires between them.”

The allowable subject matter for claims 1-17, 19-20, 26-35, 37-40, 21-25, 41-42, 44, and 46-47, stated in the Office Action mailed 12/07/2004, and is recited here in its entirety:

“The prior art of record fails to teach or render obvious a memory array or a circuit for selecting a nanoscale wire among a plurality of nanoscale wires or a method of manufacturing a logic arrangement having microscale wires and nanoscale wires having all exclusive limitations as recited in claims 1, 26, 37, 21, and 41, comprising either: a first set of nanoscale wires and a second set of nanoscale wires, intersections of the first set of nanoscale wires and the second set of nanoscale wires defining memory locations, nanoscale wires of the first set and nanoscale wires of the second set comprising controllable regions axially distributed along the nanoscale wires, a first set of the controllable regions exhibiting a first physical property, and a second set of the controllable regions exhibiting a second physical property, different from the first physical property, and either further including addressing wires (claims 1 and 41) or the controllable regions enabling addressing of the nanoscale wires (claim 37); or: a plurality of nanoscale wires, microscale ohmic contacts, and addressing wires, each ohmic each connected to a different subset of the plurality of nanoscale wires for selecting a specific subset of the plurality of nanoscale wires; the addressing wires associated with the different subsets of the plurality of nanoscale wires for selecting a nanoscale wire among the specific subset of nanoscale wires once the specific subset has been selected, the addressing wires associated with a first different subset being the same as those associated with a second different subset (claim 21), or: a plurality of nanoscale wires, a first set of microscale wires, and a second set of microscale wires,

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intersections of the nanoscale wires and the first set of microscale wires defining address locations to address one or more of the nanoscale wires, and intersections of the nanoscale wires and the second set of microscale wires defining memory locations (claim 26)."


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu-Tu Ho whose telephone number is (571) 272-1778. The examiner can normally be reached on 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID NELMS can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tu-Tu Ho
April 14, 2005


David Nelms
Supervisory Patent Examiner
Technology Center 2800